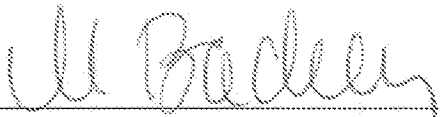


VERIFIED TRANSLATION

I, the undersigned Margareta Backen, technical translator, of Bellevuevägen 46,
S-217 72 MALMÖ, Sweden, do hereby declare:

- (1) That I am well familiar with the Swedish and English languages;
- (2) That the attached is a true and accurate translation into the English language of the Swedish text of this Patent Application entitled "Method and Device for Processing of Information" that was filed in the US Patent and Trademark Office on 31 May 2000 and at the same time a true and accurate translation of Swedish priority application No. 0000953-0 filed in the Swedish Patent and Registration Office on 21 March 2000.
- (3) That all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under § 1001 of title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: this 26th day of September 2006



Margareta Backen

UNITED STATES PATENT APPLICATION

OF

PETTER ERICSON

FOR

METHOD AND DEVICE FOR PROCESSING OF
INFORMATION

Field of the Invention

This invention concerns a product which has at least one writing surface which is provided with a position code, which codes several positions on the surface, to enable electronic recording of information which is written on the writing surface, using a device which detects the position code. The invention also concerns a device, a system, a computer program and a method for processing information. The invention also concerns a hand-held electronic device which is arranged to carry out predetermined operations at the command of a user. The invention also concerns a paper product and a digital storage medium.

Background to the Invention

Many people use paper and pen instead of computers to write short messages, in particular notes from telephone calls and meetings. The reason can, for example, be that there is no computer available, that both hands are needed to enter text efficiently via a computer's keyboard, or that it takes a long time to start up the right program in the computer. Even if notes are written on paper, people will often want to enter selected parts of them into a computer, for example a note concerning a meeting into a digital calendar or an address into a digital address book.

In US 5,852,434 a device is shown which makes it possible for a user to enter handwritten and hand-drawn

information into a computer at the same time as the information is written or drawn on a writing surface. The device comprises a writing surface, on which a position code which codes X-Y co-ordinates is arranged, and a special pen with a writing tip which the user can use for writing or drawing on the writing surface. The pen has also a light source for illuminating the position code and a CCD sensor for receiving the light which is reflected from the position code. The position information received by the CCD sensor is sent to a computer for processing. This device appears to require a computer to be started up and a certain program to be opened before the writing on the writing surface can begin.

Summary of the invention

An object of this invention is to further simplify the processing of handwritten information.

This object is achieved completely or partially by a product according to claim 1, a paper product according to claim 7, a device according to claim 10, a computer program according to claim 19, a storage medium according to claim 20, a system according to claim 21, a method according to claim 23 and a hand-held electronic device according to claim 24.

More specifically, according to a first aspect, the invention concerns a product which has at least one writing surface which is provided with a position code, which codes several positions on the surface to enable electro-

nic recording of information which is written on the writing surface by means of a device which detects the position code. The product has also at least one activation icon which, when detected by the device, causes the device to initiate a predetermined operation which utilizes the information recorded by the device.

Thus, the product has not only a writing surface but also an activation icon, by means of which the user can command the device to process the recorded information in a predetermined way. As a result of this, the user does not need to press keys or buttons on the device itself but instead he uses the activation icon on the product as a means for controlling the device. The activation icon can be likened to an icon on a computer screen, but instead of placing the screen cursor on the icon and clicking by means of a mouse, the user now enters a command by placing the device so that it can detect the activation icon on the product. The product thus constitutes a new type of user interface for the processing of information which is written on a writing surface.

The activation icon can be in the form of an image, a symbol, text, numbers or the like, enabling a user to understand and remember which operation is initiated when he uses the icon. The detection of the icon by means of the device can be based on the above characteristics which the user utilizes to interpret the meaning of the

icon or other characteristics, such as some form of code which the device detects.

The written information which is recorded is here any kind of information which can be created by hand, such as text, numbers, various types of characters, figures and drawings.

As mentioned above, the product has thus at least one activation icon. In a preferred embodiment, however, the product has a number of activation icons for activating various predetermined operations. The user can thus choose between different operations which utilize the recorded information.

The icon and the position code can be designed in many different ways. For example, they can be electrically, chemically or mechanically detectable. They need not be detectable using the same principle. However, in a preferred embodiment both the icon and the position code are optically detectable. In this way they are easy to apply to a product, as they can, for example, be printed on it, and in addition a device with one or more optical sensors can be used for detecting the icon and the position code. In this embodiment the activation icon and the position code are passive. They only need to be capable of reflecting light. However, the light need not be in the visible range.

In principle, the activation icon can activate the device to initiate any conceivable operation which uti-

lizes the recorded information. The choice is really only limited by the functions of the device which is to utilize the product. There can be a standard set of icons on the product. It is not necessary for all devices to be able to use all the activation icons. In a preferred embodiment the predetermined operation is an operation from the following group: dialing a telephone number which is part of the information, sending a fax with text which is part of the information, sending an electronic message with text which is part of the information, writing an address which is part of the information in an electronic address book, entering calendar information which is part of the information in an electronic calendar and entering a task in an electronic list.

The position code can be of various types. Examples of known position codes which code each position with one symbol or a group of symbols can be found in the above-mentioned US 5,852,434 and in US 5,051,736. The position code can preferably be of a type which codes each position with several symbols, where each symbol contributes to the coding of more than one position. Examples of how this type of overlapping or floating code can be implemented and detected can be found in the Applicant's previous Application No. SE 9901954-9, which was filed on 28 May 1999 and which is incorporated in the present application by means of this reference. The advantage of this position code is that it provides good resolution

and is easy to detect since the individual symbols are not complex.

The product can be any product which has a writing surface and at least one activation icon. It can be composed of two physical parts, the writing surface with the position code being located on one of the parts and the activation icon on the other. Alternatively, it can consist of a single part incorporating both the activation icon and the writing surface. In this case the activation icon can be located on the writing surface or on some other surface. The product can, for example, be a sheet of paper with a position code on one part of the sheet and an activation icon on another part of the sheet. In a preferred embodiment, the product is a notepad with several writing surfaces.

In addition, according to a second aspect, the invention concerns a paper product consisting of at least one sheet, where at least part of the surface of the sheet is coated with a preferably weakly adhesive layer and where the sheet has a writing surface. According to this aspect the invention is characterized in that the writing surface is provided with a position code which codes a number of positions on the writing surface to enable electronic recording of information which is written on the writing surface, by means of a device which detects the position code. The paper product comprises in addition at least one activation icon which, when it is

detected by the device, causes the device to initiate a predetermined operation which utilizes the information recorded by the device.

The writing surface and the adhesive layer are preferably located on opposite sides of the sheet. The product preferably comprises a number of essentially identical sheets. Advantages and further variations of the paper product are apparent from the above discussion.

According to a third aspect, the invention also concerns a device for processing information, which device is arranged to record and process information electronically. The device is also arranged to initiate a predetermined operation, which utilizes the electronically recorded information, when it detects a predetermined activation icon.

An advantage of this device is that it is easy to use, as the user does not have to learn any commands or press any buttons to open a desired program.

As mentioned above, the device will at least initiate the predetermined operation when the icon is detected. Depending upon the functions of the device, it may in certain cases carry out the entire operation. In other cases the device can, for example, automatically transfer the recorded information and information about which operation is to be carried out to an external unit, for example a PC or a mobile telephone, which completes the operation. The transfer can take place immediately

or at a later time. By "initiate" is meant here that the device ensures that the operation is carried out, even if it does not carry out the operation itself, so that the user does not need to give further commands to the device or the external unit in order for the operation to be carried out. However, the user may need to supply additional information and/or confirm the operation/information.

The device can record information in different ways. It can comprise a sensor, for example an accelerometer, which records the movement of the device when the device is being used for writing on a writing surface. It can also comprise a scanner, which scans the information. However, in a preferred embodiment, the device is arranged to record the information by detecting a position code located on a writing surface on which the information is written by hand. This embodiment is advantageous as the information is recorded at the same time as it is being written and the same sensor can be used for recording the written information and for detecting the activation icon. In this embodiment the position code is continuously detected while the information is being written, with a sequence of position indications being obtained which defines how the device has been moved.

As indicated above, the device can use different types of sensors depending on the technology used to implement the position code and the activation icon. In

a preferred embodiment, the device comprises an optical sensor to detect the activation icon. In addition the device advantageously comprises an optical sensor which is arranged to record images of the writing surface and a signal processor which is arranged to utilize the position code in the images to create a digital representation of the information, the predetermined operation being carried out on the digital representation of the information. The optical sensors are advantageous in that they enable the information recording and the initiation of the predetermined operation to be based on image processing, which is a well-known and well-developed technology.

While the device can be implemented with two sensors of the same or different types, the device will be less expensive and easier to use if it is implemented with a single sensor for recording information and also for detecting the activation icon.

According to a fourth aspect of this invention, it concerns a computer program for processing information which is stored in a memory medium which can be read by computer and which comprises instructions for causing the computer to detect an activation icon in an image and to initiate a predetermined operation in response to the detection of the activation icon. The advantages of this program are apparent from the above discussion.

According to a fifth aspect of this invention, it concerns a storage medium for digital information which can be read by a computer system, which storage medium contains a computer program for processing information. This comprises instructions for the following steps: detection of an activation icon on a position-coded sheet; detection of a graphical input on the sheet; and reproduction of the graphical input in a program window in an application in a computer system where the application is associated with the activation icon.

Such a program makes possible uncomplicated recording of information connected to a particular application which is running on a computer system. For example, a paper product as described above can be provided with a "to do" icon. If a note is made concerning a task which is to be carried out, using a device of the type described above, on the writing surface of such a paper product and then the "to do" icon is marked, the handwritten note can be reproduced in a "to do" function in, for example, a calendar program. The task will not then be easily forgotten.

According to a sixth aspect of this invention, it concerns a system for processing information comprising a product provided with at least one activation icon which indicates a predetermined operation, and also a device which is arranged to record the information electronically and which is arranged to initiate the pre-

determined operation with respect to the recorded information when it detects the activation icon.

The advantages of this system are apparent from the above discussion.

According to a seventh aspect of the invention, it concerns a method of processing information, comprising the steps of writing the information on a writing surface with a pen; recording the written information electronically by means of a device; and causing the device to initiate a predetermined operation with respect to the recorded information by causing the device to detect an activation icon.

This method enables the user to process information in a very simple way. He can write down information as usual on a sheet of paper with a device comprising a pen and still immediately initiate one or more operations which normally require a special computer program to be started and subsequently information to be input into a computer, simply by causing the device to detect an activation icon. According to the invention it is not necessary to write down the information prior to the detection of the activation icon. It is also possible to cause the device to detect the activation icon prior to writing the note.

The technology described above could also be used for general control of hand-held computers and other hand-held electronic devices, such as mobile telephones,

PDAs, reading pens and hand-held scanners. The user controls such devices by selecting, by means of one or a few buttons, from menus or icons shown on the computer display. These devices could be controlled in an easier way by utilizing activation icons which activate various predetermined operations normally implemented by pressing buttons.

For this purpose, according to another aspect, the invention concerns a hand-held electronic device which is arranged to carry out predetermined operations on command from a user. The device has an optical sensor for detecting at least one activation icon, and a signal processor which is arranged to carry out one of said predetermined operations when the optical sensor detects the activation icon.

In particular the device can be a reading pen of the type C Pen which is sold by the Applicant. Such a reading pen is described in, for example, SE 9604008-4. This device is controlled by means of buttons and menus shown on a display. The control could be simplified by the use of activation icons.

The activation icon or icons can, for example, be located on a product of the mouse-mat type, on a sheet of paper, or on some other product which is easily accessible to the user. The predetermined operation can be any operation which a user normally instructs a hand-held device to carry out by means of a mouse, buttons or

keys on a keyboard. Examples of such operations include starting or closing a program and saving or deleting information which has been recorded.

Naturally, where applicable, the above statements concerning the device for processing information also apply here.

Brief Description of the Figures

The invention will now be described in greater detail by way of a preferred embodiment and with reference to the accompanying figures, in which

Fig. 1 shows schematically an embodiment of a product according to the invention in the form of a notepad.

Fig. 2 shows schematically an embodiment of a device according to the invention.

Figs 3a and 3b show a paper product according to the invention.

Fig. 4a illustrates the operation of a computer program stored in a storage medium according to the invention and Fig. 4b shows a flow chart which illustrates steps corresponding to instructions in such a program.

Detailed Description of a Preferred Embodiment

Fig. 1 shows a notepad 1 with several sheets 2 of paper. The top sheet has a writing surface 3 and a command field 4.

On the writing surface 3 there is printed a position code 5 which is composed of symbols 6 of a first and a second type 6a, 6b and more specifically a dot with

a larger radius and a dot with a smaller radius, corresponding to a "one" and a "zero" respectively. For the sake of clarity the symbols have been enlarged and the position code is only shown on a small part of the writing surface. In an actual embodiment the position code extends over the entire writing surface and the symbols are smaller to ensure better position resolution.

The position code can be created in a number of different ways. One way of creating a position code where each position is coded by one symbol is described in US 5,852,434. However, in the present invention each position is advantageously coded by means of several symbols and the coding is such that each symbol in the position code contributes to the coding of more than one position. This means that two adjacent positions share some symbols, as indicated in Fig. 1 by the dashed areas 5a, 5b. In this way a higher resolution is achieved and the detection becomes easier, as the individual symbols can be less complex. This type of overlapping or floating position code can be created by means of a computer. A special way of generating such a floating position code is described in the Applicant's previous patent Application No. 9901954-9 which was filed on 28 May 1999 and which is incorporated in the present application by means of this reference.

In the command field 4 there are printed seven different activation icons 7a-g which can be used to command

a device to initiate or carry out different operations. The icons 7a-g are graphically designed in such a way that the user can understand which operation is activated by the icon. In this example, the icons comprise images, but they can also comprise text and numbers.

Fig. 2 shows a device which can be used for writing text and drawing figures on the writing surface and for carrying out operations which are initiated by the activation icons.

The device comprises a casing 11 which is approximately the same shape as a pen. In the short side of the casing there is an opening 12. The short side is intended to be held in contact with or a short distance from the writing surface and the command field.

The casing essentially contains an optics part, an electronic circuitry part and a power supply. The optics part comprises at least one light-emitting diode 13 for illuminating the surface which is to be imaged and a light-sensitive area sensor 14, such as a CCD or CMOS sensor, for recording a two-dimensional image. The device may also comprise a lens system (not shown).

The power supply for the device is obtained from a battery 15 which is mounted in a separate compartment in the casing.

The electronic circuitry part comprises a signal processor 16. The signal processor is implemented by means of a microprocessor and contains software for

analyzing images from the sensor for creating a digital representation of what is being written on the writing surface and for detecting the activation icons. In addition, it comprises software for initiating or carrying out the operations indicated by the activation icons. Finally, it may also comprise user software, such as address book software to help the user to keep track of addresses, calendar software to help the user keep track of calendar information, such as meetings, birthdays and other information which is entered in a diary or calendar, and also "to do" list software so that the user can enter tasks which he is to carry out.

The signal processor also advantageously comprises ICR software which can be used for interpreting recorded characters so that they can be stored, processed and/or transferred in character-coded format.

Finally, the electronic circuitry part also comprises a mobile telephone unit which comprises a mobile telephone transceiver 17, which makes it possible to telephone, send faxes and send e-mail messages to an external unit in the form of a telephone, a fax machine or a computer.

In addition, on the casing of the device there is a pen point 18, by means of which the user can write ordinary pigment-based writing on the writing surface. The pen point 18 can be extended and retracted so that the user can control whether or not it is to be used.

The device also comprises buttons 19 by means of which the user can activate and control the device for operations which are not controlled by the activation icons. It also comprises a transceiver 20 for wireless transfer of information across short distances, for example using infrared light or radio waves. This wireless transfer can be used when the device cannot carry out the complete initiated operation itself and needs to transfer to an external unit the recorded information and information about which operation is to be carried out.

Finally, the device comprises a display 21 for showing, for example, recorded information.

The Applicant's Swedish patent No. 9604008-4 describes a device for recording text. If programmed in a suitable way, this device can be used to record information which is written on a writing surface provided with a position code, for detecting activation icons and for initiating/carrying out operations activated by the activation icons.

The operation of the notepad in Fig. 1 and the device in Fig. 2 will be described below.

Assume that a user receives a telephone call. He writes his notes on the notepad 1 using the pen point 18 of the device. Assume, for example, that the person who telephones wants the user to telephone John on a certain telephone number. The user writes "Phone John 9857299" on the notepad 1.

While the user is writing, the optical sensor 14 continuously captures images of the writing surface 3 in the current position of the pen. The images contain the position code 5. The signal processor 16 localizes the position code in each image and, based on this, determines the coordinates of the absolute position on the writing surface in which each image was captured. In this way a description is obtained, in the form of a large number of position indications, of how the pen is being moved across the sheet. This description constitutes a digital representation of the written information. The position indications can, if required, be fed as an input signal to the ICR software which determines the characters to which the positions correspond, so that the information can be stored in character-coded format instead of as a sequence of position indications.

When the user has finished his telephone conversation, he places the device on the top icon which looks like a telephone. When the device detects the telephone icon it starts a program for dialing a telephone number by means of the mobile telephone transceiver 17. The dialing program fetches the numbers of the telephone number directly from the recorded information. The program shows the number on the display 21 and waits for the user to confirm by pressing a button that the number is correct and that it should actually be dialed. When this

has been done, the number is dialed automatically and the user can speak to John.

The detection of the activation icon can be carried out in various ways. For example, it can be carried out on the basis of the same information the user uses to determine which icon he should use, that is the image or text content in the command field 4. In another example, the position code can extend across the command field, the icons thus being superimposed on the position code or vice versa. The image of the icon will then also contain the position code. As a certain icon is always in a certain location, the icon detection can be based on the detection of a certain position. As yet another alternative, the icon can be provided with another code, for example a bar code, or symbols or other distinctive features which make it possible to identify the activation icon.

Another example of how the notepad and the pen can be used is as follows. The user remembers that he is to collect his car from the garage at 4 p.m. He writes a note on his notepad, "collect car at 4 p.m.". This information is recorded in the pen by means of the position code. The user then places the pen on the calendar program icon 7e, whereupon the pen detects it and activates the calendar program. The program fetches the recorded information. If it is in the form of position indications it can, of course, only be stored as position indications

in the calendar program. In this case, the program can suggest that the note be entered under today's date and ask the user to confirm this by pressing a button on the pen. However, if the information is in character-coded format, the program can interpret "p.m." as a time indication and enter the note under this time and set an alarm.

Other activation icons can be used in a similar way.

The fax icon 7b can be used if the user wishes to send a fax. In this case, the user writes his fax message on the writing surface and activates the fax program by means of the icon 7b. The fax program asks where the fax is to be sent. The user can retrieve this information from an electronic address book in the pen or write it by hand with the pen on the sheet of paper. The fax program then composes the fax automatically and sends it via the mobile telephone transceiver 17 to the intended recipient.

E-mail messages can be composed and sent in a corresponding way by activating the e-mail icon 7c.

Information for an address book or a "to-do" list can be processed in the same way as information for the calendar program, using the address book icon 7d and the "to-do" list icon 7f.

Finally, notes can be deleted from the pen's memory by means of the recycle bin icon 7g.

In another embodiment, the device in Fig. 2 can be controlled by means of activation icons which can be similar in design to the icons on the notepad in Fig. 1, but which relate to operations such as opening and closing programs and other operations which the user normally controls by means of the buttons 19 on the device.

Figs 3a and 3b show a paper product according to the invention. Fig. 3a shows a sheet of paper 30 where a part 31 of the surface of the back of the sheet is coated with a weakly adhesive layer. The adhesion of the layer is sufficient for the sheet 30 to be able to be attached to a flat vertical surface without falling off due to its own weight. At the same time, the adhesion is sufficiently weak for the sheet 30 to be able to be removed easily from the surface. Such adhesive material is well-known and is used in pads for notes which are sold, for example, under the tradename POST-IT. The front of the sheet comprises a writing surface 32. This is covered with a position-coding pattern 33 as described above. A number of activation icons 34, 35, 36 are printed on the writing surface, operating as described above. The activation icons can preferably be designed as boxes to be marked with a cross.

A paper product such as that described in connection with Fig. 3a is preferably manufactured and sold in pads as shown in Fig. 3b. Here a large number of essentially identical sheets of the type described above are formed

into a pad by means of the weakly adhesive layer which is deposited on the back of each sheet. However, the bottom sheet in each pad is preferably free of adhesive material. The paper product can be used in a similar way to the notepad (Fig. 1) described above.

Fig. 4a shows the operation of a computer program, stored on a storage medium, according to the invention. This computer program works preferably together with the paper product described above. In such a case a computer program is provided for a computer system 40, which program is arranged to detect both graphical inputs 41 carried out on a writing surface 42 covered with a position code, and activation icons 43 located on this writing surface 42. A graphical input is essentially the same as a digital representation of handwritten information.

The use of the computer program is as follows: A user writes a graphical input 41 on the writing surface 42 using a nib on a reading pen 44 which can detect the position code on the writing surface 42. At the same time the graphical input 41 is sent in digital form, preferably as a polygon train representing the positions which the reading pen 44 detects when the graphical input 41 is written on the writing surface 42, to the computer system 40 by means, for example, of a short-range radio link. The user then marks a certain activation icon 45 in order to indicate that the graphical input is to be associated with a certain application in the computer system 40. The

position-coding pattern where the selected activation icon 4 is located can also be detected by the reading pen 44, for which reason information corresponding to these positions is also sent to the computer system 40. The computer system 40 can thus determine which activation icon the user has selected and therefore which application the user wants to associate with the graphical input 41. The computer system 40 is arranged to reproduce thereafter the graphical input 41' in a window 46 belonging to the application concerned or associated with this, for example adjoining it. The computer system 40 may also be integrated into the reading pen 44.

The user can configure the computer program himself in several ways. For example, by means of settings in the program the user can link a certain activation icon or box on a base with a certain application in a computer system. The user can also allow more operations than the reproduction operation to be carried out. For example, a message can be sent to another user at the same time as being displayed in a window in an application in the computer system. It is also possible to link an activation icon with a number of applications in a computer system or with applications in several computer systems. The program can be varied and utilized in a number of ways in a similar way to that described in connection with Fig. 1 and Fig. 2.

Fig. 4b shows a flow chart illustrating steps corresponding to instructions in such a program. In a first step 48 the computer system detects a certain activation icon on a product. In a second step 49 a graphical input is detected. The sequence of the first and second steps is determined by the order in which the user carries out the selection of the activation icon and the carrying out of the graphical input. In a third step 50 the computer system reproduces the graphical input which was detected in the second step 49 in a program window associated with or belonging to an application associated with the activation icon which was recorded during the first step 48.

What I claim and desire to secure by Letters Patent is:

1. A product having at least one writing surface (3) which is provided with a position code (5), which codes a number of positions on the writing surface to enable electronic recording of information which is written on the writing surface, by means of a device which detects the position code, characterized in that the product also has at least one activation icon (7) which, when detected by the device, causes the device to initiate a predetermined operation which utilizes the information recorded by the device.

2. A product according to claim 1, wherein the product comprises a number of activation icons (7a-g) for activating various predetermined operations.

3. A product according to claim 1 or 2, wherein the icon and the position code are optically detectable.

4. A product according to any one of the preceding claims, wherein the predetermined operation is an operation from the group: dialing a telephone number which is part of the information, sending a fax with text which is part of the information, sending an electronic message with text which is part of the information, writing an address which is part of the information in an electronic address book, entering calendar information which is part of the information in an electronic calendar, and entering a task in an electronic list.

5. A product according to any one of the preceding claims, wherein the position code comprises a number of symbols (6) and wherein each symbol contributes to the coding of more than one position.

6. A product according to any one of the preceding claims, which product is a notepad with a number of writing surfaces.

7. A paper product consisting of at least one sheet (30), at least part of a surface of the sheet being coated with a preferably weakly adhesive layer (31) and the sheet (30) comprising a writing surface (32), characterized in that the writing surface (32) is provided with a position code (33) which codes a number of positions on the writing surface (32) to enable electronic recording of information (41) which is written on the writing surface (32) by means of a device which detects the position code (33), the paper product also comprising at least one activation icon (34) which, when it is detected by the device, causes the device to initiate a predetermined operation which utilizes the information (41) recorded by the device.

8. A paper product according to claim 7, wherein the writing surface and the adhesive layer are on opposite sides of the sheet.

9. A paper product according to claim 8, wherein the product comprises a number of essentially identical sheets.

10. A device for processing information, which device is arranged to record and process information electronically, characterized in that the device is also arranged to initiate a predetermined operation, which utilizes the electronically recorded information, when it detects a predetermined activation icon (7a-g).

11. A device according to claim 10, wherein the device is arranged to record information electronically by detecting a position code which is located on a writing surface upon which the information is written by hand.

12. A device according to claim 10 or 11, wherein the device comprises an optical sensor, which is arranged to detect the activation icon.

13. A device according to claim 11 or 12, wherein the device comprises an optical sensor, which is arranged to record images of the writing surface, and a signal processor which is arranged to utilize the position code in the images to create a digital representation of the information, the digital representation of the information being used in the predetermined operation.

14. A device according to claim 13, wherein the signal processor comprises a character interpretation function which is arranged to convert the recorded information to character-coded format, so that the digital representation of the information is at least partially in character-coded format.

15. A device according to any one of claims 10-14, further comprising a mobile telephone transceiver for transferring the recorded information from the device to an external unit, the predetermined operation being an operation from the group: dialing a telephone number which is part of the information, sending a fax with text which is part of the information and sending an electronic message with text which is part of the information.

16. A device according to any one of claims 10-15, wherein the device comprises at least one computer program of the address book, calendar or "to-do" list type, the predetermined operation consisting of entering information which is part of the recorded information into a register for use in one of said computer programs.

17. A device according to any one of claims 10-16, which device is hand-held.

18. A device according to any one of claims 10-17, further comprising a pen point for writing the information on the writing surface.

19. A computer program for processing information which is stored in a memory medium which can be read by a computer and which comprises instructions for causing the computer to detect an activation icon in an image and to initiate a predetermined operation in response to the detection of the activation icon.

20. A storage medium for digital information, which can be read by a computer system and which contains a

(continued)

(continued claim 20)

computer program for processing information, c h a r -
a c t e r i z e d in that the computer program comprises,
in any order, instructions for the following steps:

- detection (48) of an activation icon on a posi-
tion-coded sheet,
- detection (49) of a graphical input on said sheet,
and also the step
- reproduction (50) of said graphical input in a
program window associated with an application in said
computer system, which application is associated with
said activation icon.

21. A system for processing information, comprising
a product which is provided with at least one activation
icon indicating a predetermined operation, and a device
which is arranged to record information electronically
and which is arranged to initiate the predetermined ope-
ration with respect to the recorded information when it
detects the activation icon on the product.

22. A system according to claim 21, also comprising
a writing surface which is provided with a position code
which codes a number of positions on the writing surface,
the device being arranged to record the information elec-
tronically by detecting the position code on the writing
surface.

23. A method of recording and processing informa-
tion, comprising the steps of writing the information

(continued)

(continued claim 23)

on a writing surface with a pen; recording the written information electronically by means of a device, characterized by the step of causing the device to carry out a predetermined operation with respect to the recorded information by causing the device to detect an activation icon.

24. A hand-held electronic device which is arranged to carry out predetermined operations on command from a user, characterized by an optical sensor for detecting at least one activation icon, and a signal processor which is arranged to carry out one of said predetermined operations when the optical sensor detects the activation icon.

Abstract of the Disclosure

A system for processing information consists of a product, for example a notepad, which has a writing surface (3) with a position code (5), which codes a number of positions on the surface, and a device which is arranged to record the information which is written on the writing surface by detecting the position code. On the product there are also a number of activation icons (7a-g). When such an activation icon is detected by the device, the device initiates a predetermined operation which utilizes the recorded information. Such an operation can, for example, consist of dialing a telephone number which is part of the recorded information.

A product, a device and a computer program for processing information are also shown. In addition, a paper product and a digital storage medium containing a computer program are shown.

Figure for publication = Figure 2

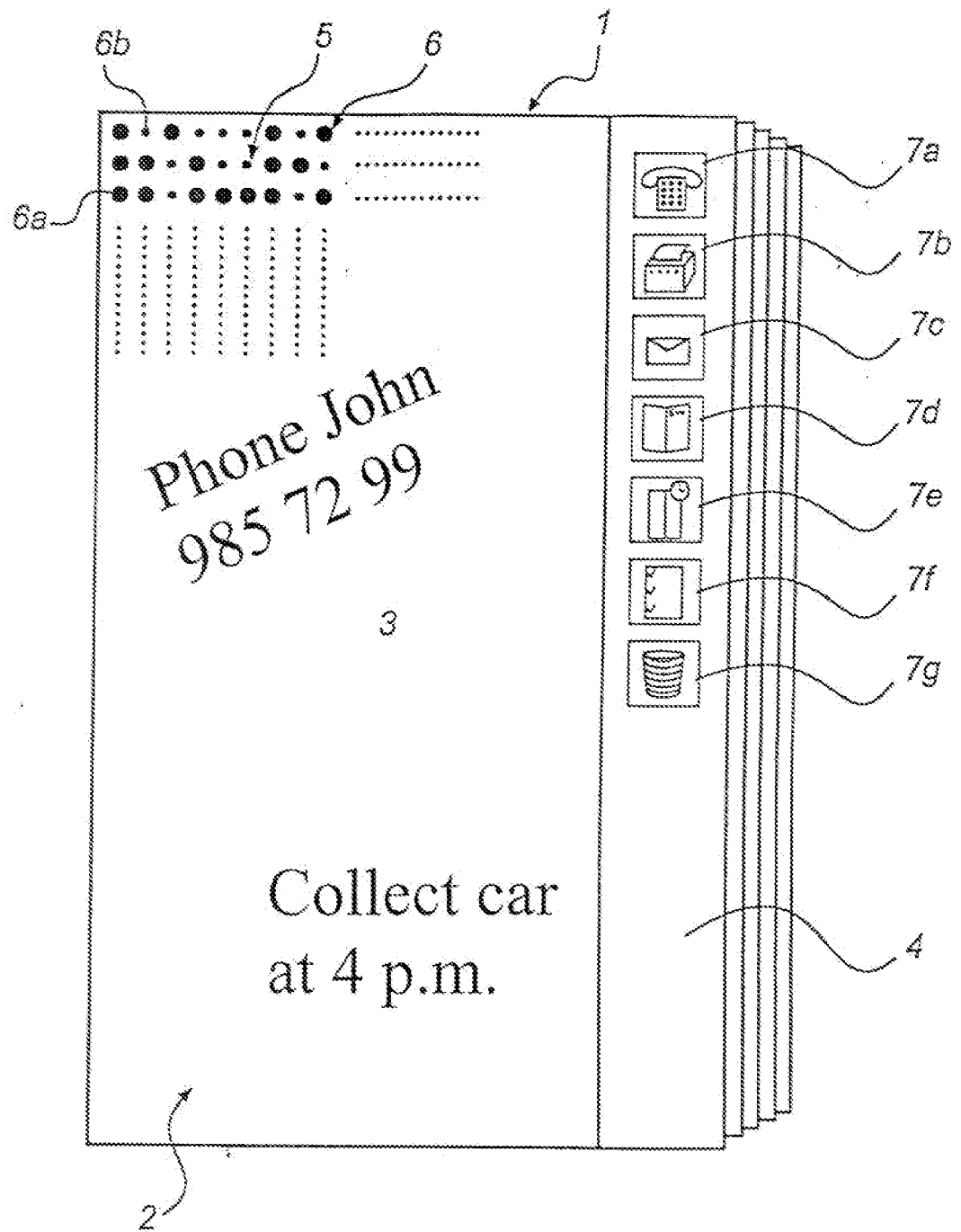


Fig. 1

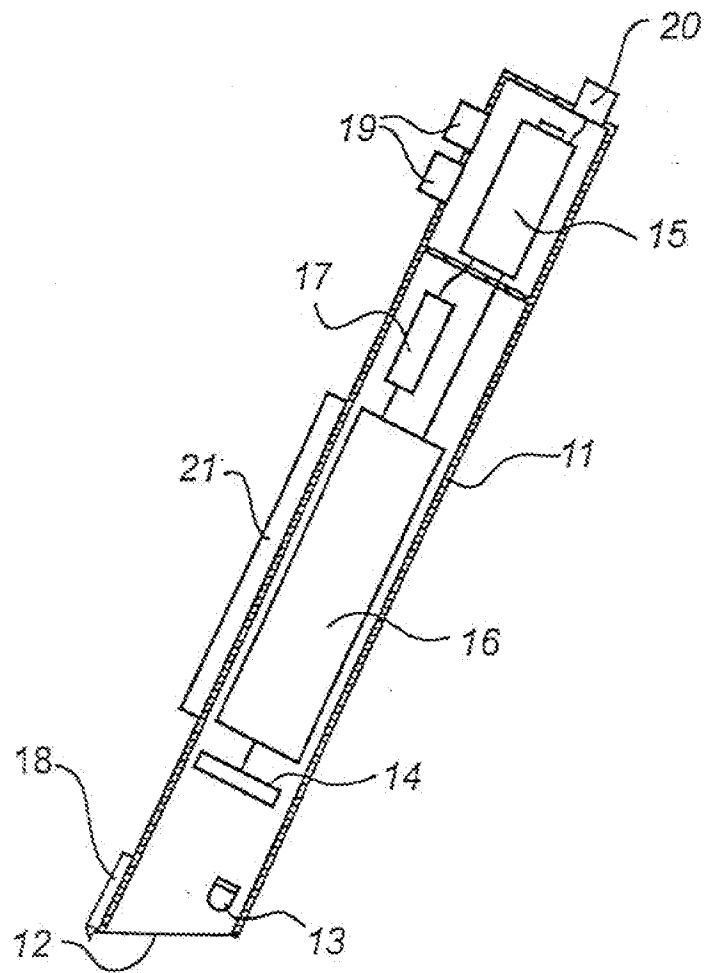


Fig. 2

Fig. 3a

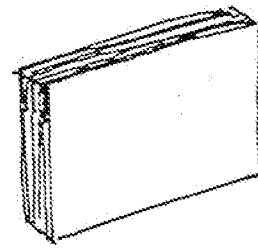
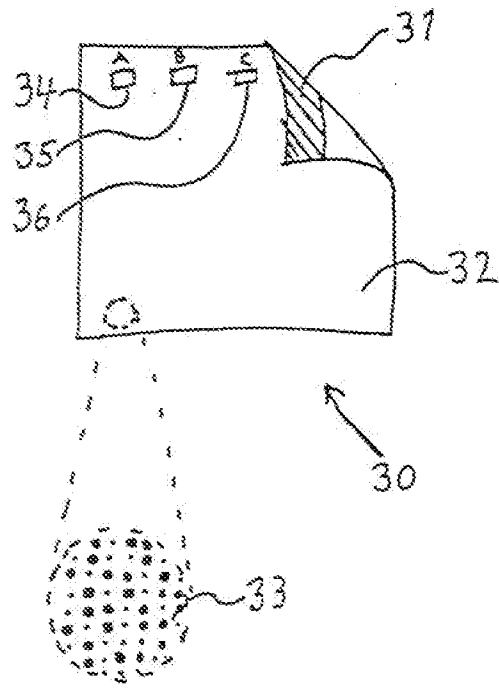


Fig. 3b

